

ABSTRACT OF THE DISCLOSURE

Provided is an etching method of accurately forming a fine structure in a plastic substrate. A surface reformed layer insoluble by an etchant, for example, limonene is formed on a surface of a substrate soluble by the etchant by ion implantation treatment; an opening is formed in the surface reformed layer by dry etching treatment; and the substrate is subjected to wet etching treatment by dipping the substrate in the etchant. A peripheral portion, around the opening, of the surface reformed layer functions as a mask to allow the wet etching to anisotropically proceed, and a portion, on the side opposed to the opening, of the surface reformed layer functions as an end point of the wet etching. As a result, a recess having a uniform inner diameter in the depth direction can be formed in the substrate.

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